

REMARKS

The Examiner rejected Claims 2 - 5, 12 and 13 under 35 U.S.C. 103(a) as being unpatentable over Miura in view of Hakkaku. The Examiner further rejected Claims 6 and 7 under 35 U.S.C. 103(a) as being unpatentable over Miura in view of Hakkaku and further in view of Ominato. The Examiner further rejected Claims 8 - 10 under 35 U.S.C. 103(a) as being unpatentable over Miura in view of Hakkaku and further in view of Ominato. The Examiner further rejected Claims 14 - 16 under 35 U.S.C. 103(a) as being unpatentable over Miura in view of Hakkaku and further in view of Caraballo. The Examiner further rejected Claims 18 - 19 under 35 U.S.C. 103(a) as being unpatentable over Miura in view of Hakkaku and further in view of Ominato and Caraballo.

The Examiner states that Hakkaku teaches a coil drive operable to rotate the sheet coil (98), that the computer operates the coil drive (96), that the computer is operative to rotate the sheet coil in a sheet advancing and a sheet retracting direction (Fig. 3).

When the Applicant first looked at Fig. 3, it appeared that the Examiner was correctly interpreting the drawing as showing the motor 20 connected to the axis of the sheet coil 20. However further examination of the text of the Hakkaku patent and further review of Fig. 3, shows that in fact the motor 98 is connected through a pair of pulleys and a belt (shown in Fig. 3 but not numbered) to the lower feed roller 30, and is not connected to drive the sheet coil 20 at all.

At column 2, lines 56 - 65 Hakkaku states:

“A roll 20 with a printing sheet 18 wound therearound is held horizontally in width direction of the case 12 at the back downside of the case 12. The printing sheet 18 is guided from the roll 20 into the case 12, and printed in the case 12. The printing sheet 18 is used as a poster or the like, its width is broad, and the maximum width of about 54 inches is used.

The printing sheet 18 is guided by a guide roller 22 to a gap between a pair of upper and lower guide plates 24 and 26, further held between a pair of upper and lower feed rollers 28 and 30, and fed toward a front face of the case 12.

and at column 5, lines 4 - 7:

“In this case, the controller 96 supplies an instruction to a feed motor 98 to rotate in reverse so that the feed roller 30 is operated to rotate in reverse.”

In view of the above, the Applicant respectfully requests that the Examiner review the operation of the device disclosed in the Hakkaku patent, and submits that a coil drive is not disclosed therein.

The Examiner has stated that such straightening rollers are provided by the rollers 111, 112 in Miura. The Applicant respectfully submits that the rollers 111, 112 could not perform the flattening function. The rollers are mounted in a pinching arrangement such that they bear against each other - the sheet metal would simply pass between them, and not be forced into a flattened orientation. The rollers of Miura thus teach away from the straightening rollers of the present invention.

Thus the prior art teaches neither a coil drive, or flattening rollers, since neither are required when dealing with flexible material in relatively small rolls. The Applicant respectfully submits that none of the cited prior art thus teaches the problems addressed by the present invention, or a solution to such problems. Coiled sheet metal is a much different material from the flexible fabric or printed material used in the cited prior art of Miura and Hakkaku, as well as in Nasu, Sunohara et al., Bartz, and Takahashi.

One significant difference addressed by the present invention is that coiled sheet metal is very stiff, and retains a curved configuration once drawn off the coil. The present invention therefore includes a "plurality of straightening rollers operative to flatten said end portion such that same lies flat on said sheet support". The cited prior art is directed to a material that does not require any such means, since when unrolled and laid on a flat surface it will simply, by its nature, lay flat on the surface.

A further significant difference is that coiled sheet metal has very considerable mass - such coils commonly weigh 20,000 pounds. Starting the coil to rotate, and then stopping the coil once rotating, requires considerable force compared to the force required to draw the flattened sheet back and forth under the cutting head to cut a pattern. The present invention therefore provides separate drives for the sheet metal and the coil. This problem as well is not indicated as being present in any of the cited prior art directed to fabric and the like.

The Applicant therefore respectfully submits that it would not be obvious to a person skilled in the art of cutting coiled sheet metal to look to machines that cut small rolls

of very limp and flexible fabric or printed material for inspiration when endeavoring to cut sheet metal. The absence of prior art related to cutting sheet metal, and the abundance of cited prior art related to cutting fabric and printed material, together indicate that it would not be obvious to adapt such known machines to the present purpose.

With respect to the dependent claims the Applicant relies on the above, and our prior arguments presented in our submissions of March 19, 2004.

Applicant has made an earnest effort to be fully responsive to the Examiner's objections and believes that Claims 2 - 10, 12 - 16, 18, and 19 are now in condition for allowance. The applicant solicits the allowance of Claims 2 - 10, 12 - 16, 18, and 19.

If, however, the Examiner should for any reason consider this application not to be in condition for allowance he is respectfully requested to telephone the undersigned attorney at the number listed below prior to issuing a further Action.

Respectfully submitted,

Wilf Koenders

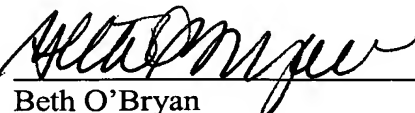
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CERTIFICATE OF MAILING

I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail in an envelope addressed to Mail Stop Amendment, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450, this 16th day of September 2004.


Beth O'Bryan